

App. No. 10/787,339
DN: GOAC 8768US
Amendment Dated September 20, 2005
Reply to Office Action of June 20, 2005

Amendments to the Specification

Please replace paragraph Nos. [0026], [0035], [0036], with the following rewritten paragraphs:

[0026] As shown in FIG. 1, a first embodiment of a leak detection apparatus 1 comprises a current density meter 10, a power supply 20, and a probe 30. The current density meter 10 is a readily available device, such as the Model CD-300 sold by Industrial Instruments, Inc., 446 Winterhaven Dr., Newport News, VA 23606. The current density meter 10 receives an electrical signal representing current density for measurement. Using the electrical signal, the meter 10 measures and communicates a current density reading to a display 11 in the units of Amp/ft². The Model CD-300 is sensitive enough to measure current density in a range of 0.1 Amp/ft² to 1999 Amp/ft². Although FIG. 1 discloses the current density meter 10 as the Model CD-300, other types of current density meters can be substituted to achieve varying ranges of sensitivity.

[0035] FIG. 4 illustrates a second embodiment of a leak detection apparatus 100. It is important to note that while the first embodiment operates by maximizing a current density reading to locate the cracks, the second embodiment operates by minimizing a current density reading to locate a cracks. The second embodiment of a leak detection apparatus 100 comprises a current density meter 110, a power supply 120, a torroid 131, and a directional amplifier 134. In the second embodiment, the torroid 131 and

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directional amplifier 134 are not attached to form a single probe 30 as in the first embodiment. Instead, the torroid 131 and directional amplifier 134 remain independent.

[0036] The current density meter 110 is a readily available device, such as the Model CD-300 sold by Industrial Instruments, Inc., 446 Winterhaven Dr., Newport News, VA 23606. The current density meter 110 receives an electrical signal representing current density for measurement. Using the electrical signal, the meter 110 measures and communicates a current density reading to a display 111 in the units of Amp/ft². The Model CD-300 is sensitive enough to measure current density in a range of 0.1 Amp/ft² to 1999 Amp/ft². Although FIG. 4 discloses the current density meter 110 as the Model CD-300, other types of current density meters can be substituted to achieve varying ranges of sensitivity.